SANTA CRUZ BIOTECHNOLOGY, INC.

Cdc13 (6F11/2): sc-53215

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The Power to Question

BACKGROUND

In eukaryotes, cell proliferation is controlled at specific stages of the cell cycle by distinct protein kinase complexes which consist of a catalytic subunit and a regulatory subunit. The cyclins comprise the regulatory subunits of these kinase complexes. Prokaryotic cyclins function in a similar manner to eukaryotic cyclins and are involved in cell cycle control and regulation. Cdc13 is a 482 amino acid *Schizosaccharomyces pombe* protein that contains one cyclin N-terminal domain and belongs to the cyclin family. Localized to the nucleus, Cdc13 functions as an essential regulatory component of the G_2/M phase mitotic transition and is involved in cell cycle-induced cytoskeletal reorganization. Cdc13 is subject to posttranslational phosphorylation on Ser 177, Ser 180 or Ser 183.

REFERENCES

1. Booher, R. and Beach, D. 1988. Involvement of Cdc13$^+$ in mitotic control in *Schizosaccharomyces pombe:* possible interaction of the gene product with microtubules. EMBO J. 7: 2321-2327.
2. Hagan, I., Hayles, J. and Nurse, P. 1988. Cloning and sequencing of the cyclin-related Cdc13$^+$ gene and a cytological study of its role in fission yeast mitosis. J. Cell Sci. 91: 587-595.
3. Bueno, A. and Russell, P. 1993. Two fission yeast B-type cyclins, cig2 and Cdc13, have different functions in mitosis. Mol. Cell. Biol. 13: 2286-2297.
4. Yamano, H., Gannon, J. and Hunt, T. 1996. The role of proteolysis in cell cycle progression in *Schizosaccharomyces pombe*. EMBO J. 15: 5268-5279.
5. Stern, B. and Nurse, P. 1996. A quantitative model for the Cdc2 control of S phase and mitosis in fission yeast. Trends Genet. 12: 345-350.
6. Breeding, C.S., Hudson, J., Balasubramanian, M.K., Hemmingsen, S.M., Young, P.G. and Gould, K.L. 1998. The Cdr2$^+$ gene encodes a regulator of G_2/M progression and cytokinesis in *Schizosaccharomyces pombe*. Mol. Biol. Cell 9: 3399-3415.
7. Decottignies, A., Zarzov, P. and Nurse, P. 2001. *In vivo* localisation of fission yeast cyclin-dependent kinase Cdc2p and cyclin B Cdc13p during mitosis and meiosis. J. Cell Sci. 114: 2627-2640.
8. Turnbull, E.L., Martin, I.V. and Fantes, P.A. 2006. Activity of Cdc2 and its interaction with the cyclin Cdc13 depend on the molecular chaperone Cdc37 in *Schizosaccharomyces pombe*. J. Cell Sci. 119: 292-302.

SOURCE

Cdc13 (6F11/2) is a mouse monoclonal antibody raised against Cdc13 whole protein of *S. pombe* origin.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.

PRODUCT

Each vial contains 200 µg IgG_{2a} in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Cdc13 (6F11/2) is available conjugated to agarose (sc-53215 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-53215 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-53215 PE), fluorescein (sc-53215 FITC), Alexa Fluor® 488 (sc-53215 AF488), Alexa Fluor® 546 (sc-53215 AF546), Alexa Fluor® 594 (sc-53215 AF594) or Alexa Fluor® 647 (sc-53215 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-53215 AF680) or Alexa Fluor® 790 (sc-53215 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

Cdc13 (6F11/2) is recommended for detection of Cdc13 of *S. pombe* origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)].

Molecular Weight of Cdc13: 56 kDa.

SELECT PRODUCT CITATIONS

1. Krapp, A., Hamelin, R., Armand, F., Chiappe, D., Krapp, L., Cano, E., Moniatte, M. and Simanis, V. 2019. Analysis of the *S. pombe* meiotic proteome reveals a switch from anabolic to catabolic processes and extensive post-transcriptional regulation. Cell Rep. 26: 1044-1058.

RESEARCH USE

For research use only, not for use in diagnostic procedures.